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Actual Condition and Prospects of Germany's Iron Industry

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GERMANY'S iron industry is in a difficult situation. Its immediate future is uncertain and imperilled.

Before the war the United States, Germany and England were the greatest iron producers of the world. The oldest among them, the English iron industries, as compared with the German, had the advantage afforded by nature in that coal and iron ore are found within the same district and in that the nearness of the sea offered convenient and cheap opportunities of transport. The American iron industry compared favorably with that of Germany as regards the wealth of iron ores of the respective countries and a home market of infinitely greater importance and of higher purchasing power. In the face of these competitors the German iron industry, at first slowly and within the last generation at a quick pace, has developed in the course of the nineteenth century at three main centers: (1) in Rheno-Westfalia, including the regions of the river Sieg; (2) the same in Upper-Silesia on the basis of coal; and subsequently in (3) Lorraine, together with the Saar district in the oolitic iron ore fields of those regions. In this latter development concurrent factors were favorable such as freights and general improvements in the processes of smelting. The manufacturing and finishing iron industries grouped partly around the former districts, partly in other districts, such as the Saxon coal district, and at great market centers, such as Berlin and Nuremberg.

The German iron industry, as in other countries, has been promoted by the economic policy of the respective states. Its higher costs of freight, which according to Henry Charles Carey are the heaviest burden of production, were to some extent alleviated by Germany's development of the national means of transportation and a suitable system of tariffs. Following the American precedent of a generation ago, a protective yet moderate duty was instituted. Extensive protection of labor and labor insurance, established and maintained at considerable cost, together with a highly developed school system had created a high class of workers. Commercial treaties with most of the Central European States had opened up well-defined possibilities for sales abroad. More important, however, than all these means of general enhancement were the technical capabilities of engineers and iron masters, who never ceased improving their plants; the growing home market through increase of population and of purchasing power; and the combination of factories to form concerns of various kinds for the sale of their products. Second to agriculture and coal-mining, it was the iron industry that formed the support and strength of German economic life, giving employment as it did to one-sixth of all engaged in industrial work and thus affording to every tenth German the basis of his means of subsistence. The export of iron and steel products covered the needs of the German import of food-

stuffs and raw materials to the extent of about one-sixth. In conjunction with the iron industries of other countries the iron industry of Germany contributed its considerable share to the pioneer work of civilization and to the promotion of economic life and facilities of life in general. Only in respect to the supply of its raw materials was its position uncertain. It had to import more than one-third of its supply of iron ores, more particularly those of high percentage, from Sweden, Spain, France and the north of Africa.

During the war the German iron industry transformed and adapted itself to the new requirements more readily than did that of England, and for years held the balance over the iron industries of the Allied countries, superior though they were as regards numbers, both in respect to quantity and quality of the war material. And this the German iron industry did despite the difficulties that arose from the blockade which compelled it to resort to the scrap drawn from the territories temporarily occupied. It held this balance so effectively that the English technical periodical, *The Engineer*, demanded point-blank that the German blast furnaces should be razed to the ground.

The peace instrument enforced upon Germany at Versailles a peace which is without precedent and example in the world's history. It severed the iron industry of Lorraine and for a period of fifteen years that of the Saar district from Germany's economic body and thereby reduced its strength by one-fifth. The Poles, backed by the French, are aiming at the separation of the industry of Upper Silesia from Germany. Through the detachment of these territories the iron-ore basis of what remains of the German iron industry has been shortened by seven-tenths. Moreover, in contra-

diction to the international law formerly prevailing, property rights to, and shares in iron-ore mines in hostile countries have been taken away from Germany. This is of all the more consequence as little if any iron-ore property on the face of the earth is still free and available.

The coal supplies to be delivered to France, Belgium and Italy—in which latter country there were, by the way, no coal mines that could have possibly been destroyed by the war—have, through the stipulations of Spa, attained quantities that leave to the German iron industry a supply that can cover only half of its needs in coal. The restriction of the pig-iron production thereby is still greater, for the smaller the available quantity of coal the greater the proportion of the coal required for keeping the plant going to that needed for production. These conditions are aggravated by the difficulties naturally arising from the occupation of the left bank of the Rhine. For those iron concerns, whose works are partly situated on the left bank, for months could get from the right bank of the Rhine neither the billets nor the rolled material needed for their finishing departments.

The disturbance caused by the political revolution has been slight for the iron industry; the incumbrances, in consequence of the social revolution which is constantly going on, are great and ever increasing. Whereas the output of pig iron of the United States in 1919 was about the same as in 1913, the output capacities of the German blast furnaces have been reduced to one-third of their former capacity, and, considering the restriction of the market and the shortening of the coal supply, it is hardly likely to increase in the near future.

Considering its diminished iron-ore supply, the German iron industry is

dependent more than formerly on the supply of foreign ores, and has to rely on their prices with regard to the costs of production. The shipping of the ores to Germany has been rendered more difficult by the seizure of the German commercial fleet, and the purchase of ore has been impeded, even frustrated, by the wretched state of the German exchange. The coal distress is not likely to lessen within the years to come; since the French will hardly concede to a reduction of their demands, as they apparently intend to build up on these German coal supplies industries that hitherto have not existed in France. Even if the Poles who, recently relying on the support of the French, have forced the frontier by the use of arms, do not succeed in severing Upper Silesia from Germany, the coal quantity available for Germany is not likely to increase, since the miners, according to the Geneva conventions, are aiming at a further reduction of the working hours, and it is impossible to employ more miners in the German pits from want of housing possibilities. In spite of strenuous exertions and very considerable expenditures during the past year, the exaggerated rise of building costs have made it impossible to add a sufficient number of houses. There is at present no want of scrap, which the German iron industry is more in need of than before through the open-hearth process being enforced upon it. These increased requirements of scrap, however, will not fail to lead to a shortage in this line. More than this, apparently, the Entente, in contradiction to the Versailles Treaty, demands not only the destruction of the war material but even the delivery of the scrap thus obtained, and thereby stops up an important source of scrap supply.

Ever since the revolution the German government has gone on printing more and more notes, meaning to create more money, but as a matter of fact it is creating more debt and depreciating the money value. The general rise of prices for goods keeps on raising the wages and the costs of production; the laying out of new plant units has become very difficult, in consequence of the requirement of capital, however much the factories that have been under an excessive strain during the war need renewal and extensions. Besides, through the constant rise of prices, the sums sunk in the keeping up of the stocks increase to such an extent that the works are obliged to procure new capital through the issue of new shares or debentures. As the recent German taxation laws even extend to the absolutely necessary working capital stock of the works, and as German industry no longer, as in years before the war, realizes savings available for extensions of plant, it is likely that considerable portions of the stock will pass into the hands of foreigners. Parts of the German industry will, therefore, become tributary to, if they do not altogether pass under the control of, foreign countries. For the present this danger to the large iron and steel concerns is not imminent, because of their habitual careful financial operations. They have so far refrained from increasing their capital. The situation of those manufacturing industries which are in need of extensions of capital is more difficult.

In spite of the prevailing want of iron, more particularly of finished products, there is at present a check on the home market in Germany, not on account of the much quoted strike of purchasers, but because those willing to buy are devoid of means. On the market abroad the conditions are not

good, although the depressed rate of exchange seems to favor it. Through the dictates of Versailles, Germany has been deprived of the possibility of following her own commercial policy. The props of foreign exportation have been pulled down through the seizure of German establishments and her shares in such. Even the communication by cable overseas, such as intercourse between North America and Germany, has been placed under English control, the German cables having been taken away. The rate of exchange makes it exceedingly difficult for the German iron industry to keep representatives abroad, and almost impossible to get in orders that are connected with grants of credit. The costs of production are now so elevated in Germany that the number of articles offered from abroad at a cheaper price is ever increasing and is actually invading the German home market, since the German rivers are placed under a control in which foreign powers have a share, and the railways are under a certain foreign influence. Prices, too, are going up in leaps and bounds, and the sudden changes of the rate of exchange almost preclude any reliable cost estimates and turn the taking of orders in the trade of finished articles, such as machinery with its long terms of delivery, into a matter of unsound speculation. Although the war has left gaps in the old ranks of the well-trained, high class workers, they are still there. And they will continue to be the mainstay and strength of the German iron industry, after the physical and moral after-effects of the war shall have been overcome, and provided the Bolshevik wave does not overturn everything.

When the free committees for collaboration between employers and workers of the same trade (*Arbeitsgemeinschaften*), which have been in

existence in Germany for the last two years, shall have got to work smoothly and cleared their way—provided the newly instituted workmen's councils for each works (*Betriebsräte*) will keep within their natural bounds and do not paralyze the shops by excessive interference—there are possibilities provided here, as through many other institutions that have recently been brought into play, to pave the way for a sound coöperation between employers and workers. For the present the iron industry is still in the midst of the progressing social revolution, that is apt to shake the firm structure of the organization of the shops, and is not, at least up to this time, tending to increase their producing capacities. The social democratic party, which has had paramount political influence in Germany since the revolution of November, 1918, has been unable to improve matters so far by the measures introduced by them. In order, however, to keep the discontented masses to their creed, their leaders now call for the socialization of the works. It is their will that this scheme, borrowed from the stock of the Bolshevich ideas, shall shortly be put into practice in the coal and ore mining trades. If the measure is not kept within bearable limits, the productive powers of the works and their mobility will be paralyzed to the detriment of German economic life.

The German iron industry still commands a reliable, experienced and well-trained staff of engineers, and of chemical and commercial men. But the maintenance of the technical universities up to their present high standard is a matter of anxiety, and is not likely to be realized without a very considerable share in the costs on the part of the industry. As it is, the iron industry already keeps up the "Institute for the Scientific Research

of Iron" and similar institutions out of their own means. It is gradually becoming a doubtful question, whether one single works in command of great capital will still be able to provide the means for experimental researches becoming too expensive now, and whether these can in future only be carried out by the joint action of works, which for the particular object of research will be hard to organize. It is furthermore a matter of no small anxiety as to whether it will be possible to keep the staff of highly qualified men employed in the German industry, in the long run, and in situations adequate to their capabilities.

The German ironmasters, who before the war have built up the large German iron, steel and engineering works, who during the war have applied them to other destinations, and after the Armistice again and by their own resources turned them to the work of peace, are sure to find out new ways of action under the changed circumstances, if they are given sufficient play.

Considering the scarcity of coal it must be their endeavor to improve thermic economy and to render the use of fuel more economical. For this object, as well as for all technical progress, and for all new and expensive plant and extensions the high costs will prove an obstacle. In order to lower

the costs of production the German iron industry has resorted to many kinds of combinations, and it means to proceed further on this road. It is possible also that in order to provide a livelihood the workmen who no longer find employment in the iron works which are forced to reduce their staff from want of coal, will have to take more to the manufacturing and finishing branches of the industry. By force of necessity these workers will have to seek new paths, so as, by systematic and joint action, to reduce the costs of production.

In spite of all dangers and hindrances, life and activity is astir in the German iron industry. If it is intended to exclude the German iron industry, and, for that matter, all the German industries as competitors in world production, then it must be clear that Germany will of necessity disappear as a purchaser of foreign products because of inability to pay for them. For only that country which may sell and export can, in the long run, continue to buy and import. Even the man who has no fear of the further spread of Bolshevism, into which Germany under the circumstances must sink, will not regard lightly the injurious effect on the welfare of the world, if sixty millions of people in the heart of Europe are shut out as producers and consumers.